

MULTICHANNEL OPTICAL MULTIPLEXING DEVICE  
USING A SINGLE LIGHT BANDPASS FILTER

ABSTRACT OF THE DISCLOSURE

5 An optical multiplexing device includes a light bandpass filter that passes a first light wavelength at a first angle of incidence and passes a second light wavelength at a second angle of incidence. In a demultiplexing version, a light source directs a first incident beam including light of the first wavelength and light of the second wavelength at the first angle of incidence onto the light bandpass filter. The light bandpass filter passes the light of the first wavelength therethrough and reflects a first reflected beam therefrom. A first light receptor and redirector receives the first reflected beam and redirects the first reflected beam back onto the light bandpass filter at the second angle of incidence as a second incident beam. The light bandpass filter passes the light of the second wavelength therethrough and reflects a second reflected beam therefrom. The principle may be extended to the demultiplexing of additional wavelengths of light from the incident beam.

10

15